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10/792,072	03/03/2004	Hideyuki Kakinuma	4296-171 US	4211

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EXAMINER	
DESAI, ANISH P	
ART UNIT	PAPER NUMBER
1794	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/792,072	KAKINUMA ET AL.	
	Examiner	Art Unit	
	ANISH DESAI	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04/28/08*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) *12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's arguments in response to the Office action dated 01/22/08 have been fully considered. The Examiner would like to thank Applicant for their detail analysis of the prior art references of record.

2. Claims 1-12 are pending. Claims 12 is withdrawn.

3. All of the previously made 35 USC Section 112-second paragraph rejections are withdrawn in view of the present amendment and response.

4. All of the previously made art rejections are maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 4-7, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holbrook et al. (US 5,858,159) in view of Tomoaki et al. (JP 2000-226561) (English translation previously provided by the Examiner), substantially as set forth in the Section 6 of 01/22/08 Office Action.

6. Holbrook discloses a method for manufacturing automotive seat assemblies using fabric (pre-applied outer layer material or surface layer or fibrous material) with pre-bonded adhesives (abstract). The fabric with the adhesive of Hollbrook is cut into pieces, which may be joined with other pieces to form a trim cover assembly. Heat is

then applied to activate the adhesive and attach the trim cover assembly to a cushion pad to manufacture a complete automotive seat assembly (abstract).

7. With respect to claims 1 and 8 Holbrook is silent with respect to teaching the hot-melt having (A) an amorphous poly-alpha-olefin (APAO) having a melting viscosity in the range of 500-100,000 mPa*s/190°C, (B) a tackifier resin having a softening point of not lower than 110°C, (C) a polypropylene (PP) wax having a melting point of not lower than 120°C, and weight ratio of A/C in the range of 100/50 to 100/100 (i.e. 2 to 1) (claims 1 and 8) and weight ratio of A/B in the range of 100/10 to 100/100 (i.e. 10 to 1) (claims 4 and 8). However, Tomoaki discloses a hot-melt adhesive that has high flexibility, low possible coating temperature, low coating viscosity, high tack generation temperature, high blocking resistance, and short open time (page 9). The hot-melt adhesive of Tomoaki comprises 50-90 wt% amorphous polyolefin polymer, 5-44 wt% of a crystalline polypropylene wax with a softening point of 120°C or higher, and 1-20 wt% of tackifying resin (page 2). The amorphous polyolefin of Tomoaki has a viscosity of 1,500 to 50,000 cps at 190°C, which coverts to 1,500 to 50,000 mPa*s (1 cp = 1 mPa*s). With respect to the limitation of tackifier resin having softening point of not lower than 110°C, it is noted that Tomoaki discloses the same types of tackifier resins (e.g. terpene, modified terpene, hydrogeneated resins such as hydrogenated terpene) (page 16-17) as disclosed by the applicant on pages 11-12 of the specification. Therefore, it is reasonable to presume that the tackifying resin of Tomoaki has a softening point of not lower than 110°C because products of identical composition cannot have mutually exclusive properties, see *In re Spada*, 911 F.2d 705, 709, 15

USPQ2d 1655, 1658 (Fed. Cir. 1990). With respect to the claimed weight ratio of APAO (A) to PP wax (C) of 100/50 to 100/100, as previously disclosed the hot-melt adhesive of Tomoaki comprises 50-90 wt% APAO polymer, 5-44 wt% of a crystalline PP wax, which reads on said weight ratio (e.g. 50 wt% APAO and 25 wt% of PP wax = 100/50 weight ratio). Regarding, the claimed weight ratio of the APAO (A) to the tackifier resin (B) of 100/10 to 100/100, as previously disclosed the hot-melt adhesive of Tomoaki comprises 50-90 wt% APAO and 1-20 wt% of the tackifier resin, which reads on said weight ratio (e.g. 50 wt% of APAO and 5 wt% of tackifier resin = 100/10 wt ratio).

8. It is noted that the primary reference of Holbrook discloses disadvantages of using solvent based or chemical adhesives in attaching trim cover assemblies to cushion pads (column 1 lines 21-27). Further, Holbrook discloses that conventional attachment methods to attach trim cover assemblies to cushion pads use large quantities of adhesive and long bonding cycle times to assure that a sufficient quantities of adhesive has migrated into the fabric material to obtain a suitable bond (column 1 lines 57-61). According to Holbrook “Because both the fabric material and the cushion material are heat sensitive, long bonding cycle times result in degradation of the fabric material and the cushion material, such as nap crush and loss of foam loft (column 1 lines 60-65). It is noted that the hot-melt adhesive of the secondary reference of Tomoaki has advantages such as high flexibility, low possible coating temperature, low coating viscosity, high tack generation temperature, high blocking resistance, and short open time (page 9). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the hot-melt adhesive of Tomoaki in the

invention of Holbrook, motivated by the desire to use a hot-melt adhesive that has high flexibility, low possible coating temperature, low coating viscosity, high tack generation temperature, high blocking resistance, and short open time.

9. As to the claim requirement of the thickness of the hot melt layer (claim 5), it would have been obvious to choose a suitable thickness of the hot melt adhesive layer, motivated by the desire to provide sufficient quantity of the adhesive such that the adhesive provides proper bonding to the surface to which the fabric is bonded.

10. Regarding claim 6, the recitation of "not more than 30 weight % of a polyolefin" is interpreted as not having (i.e. zero wt%) polyolefin because the recitation "not more than 30 weight %" includes zero. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the hot-melt adhesive of Tomoaki in the invention of Holbrook, motivated by the desire to use a hot-melt adhesive that has high flexibility, low possible coating temperature, low coating viscosity, high tack generation temperature, high blocking resistance, and short open time.

11. With respect to claim 9 the weight ratio of APAO (A) to PP wax (C) of 100/50 to 100/80, as previously disclosed the hot-melt adhesive of Tomoaki comprises 50-90 wt% amorphous polyolefin polymer and 5-44 wt% of a crystalline polypropylene wax. Additionally, with respect to the weight ratio of APAO (A) to the tackifier resin (B) of 100/30 to 100/60, the hot-melt adhesive of Tomoaki comprises 50-90 wt% amorphous polyolefin polymer and 1-20 wt% of tackifier resin (e.g. 50 wt% APAO and 20 wt% of tackifier resin = 100/40 wt ratio). Thus, it would have been obvious to one having

ordinary skill in the art at the time the invention was made to use the hot-melt adhesive of Tomoaki in the invention of Holbrook, motivated by the desire to use a hot-melt adhesive that has high flexibility, low possible coating temperature, low coating viscosity, high tack generation temperature, high blocking resistance, and short open time.

12. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holbrook et al. (US 5,858,159) in view of Tomoaki et al. (JP 2000-226561) (English translation previously provided by the Examiner) as applied to claims 1 and 8 above, and further in view of Bohm et al. (US 2003/0008137A1), substantially as set forth in the Section 7 of 01/22/08 Office Action.

13. Claims 3 and 11 require surface layer material/adhesion or thermal fusion/polyolefin foam/hot-melt. It is noted that Holbrook is silent with respect to disclosing claims 3 and 11. However, Bohm discloses self-adhesive protective article for painted automobile parts. The adhesive tape of Bohm includes a backing material in the film form which can be foamed and whose outer side is laminated with a layer of knitted fabric (surface layer) (abstract and 0018). The lamination of the fabric with the foam is performed using an adhesive (0031). Further, as a film forming (foam) material, Bohm discloses various polyolefin resins (0016). The aforementioned disclosure of Bohm is interpreted as the structure of the Bohm's film is knitted fabric/adhesive/polyolefin foam. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the structure of the Bohm's film in the invention of Holbrook as modified by Tomoaki, motivated by the

desire to enhance the strength of the trim cover assembly of Holbrook as modified by Tomoaki.

Response to Arguments

14. Applicant's arguments received on 04/28/08 are fully considered, but they are not found persuasive.

15. It is noted that Applicant has generally asserted that the use of the adhesive of Tomoaki (JP 2000-226561) in the primary reference of Holbrook (US 5,858,159) would render Holbrook's reference inoperable for its intended use. To support his/her assertion, Applicant argues following:

16. According to Applicant, Holbrook states that the fabric material and the cushion material are heat sensitive (column 1 lines 62-65). Further, Holbrook uses fabric with pre-bonded adhesive that can be properly bonded to a seat cushion in merely 4-12 seconds using heated vapor (column 7 lines 19-21). According to Applicant heated vapor reaches temperatures of about 100-110°C. Applicant further argues that in contrast to Holbrook's invention, Tomoaki's hot melt adhesives uses coating temperature of 150°C to coat onto an unwoven fabric (page 36, Example 9, paragraph 0055). Applicant argues that although Tomoaki characterizes the hotmelt as usable at low temperatures this statement that compares hotmelt to other hotmelt that use temperatures of 180°C or higher (paragraph 0006). Therefore, Applicant concludes that Tomoaki's hotmelt is designed for use at what would be high temperatures for Holbrook's invention, while, in contrast, Holbrook teaches use of adhesives that are designed for adhesion at the temperature of steam application because Holbrook

teaches use of heat-sensitive fabric and cushion. Thus, the use of the Tomoaki hotmelt on the Holbrook fabric would damage the article and thus make the article inoperable for its intended purpose. Further, Applicant asserts that Holbrook even states that use of a hotmelt adhesive requires superheated vapor and is disadvantageous (column 2 lines 22-29). The Examiner respectfully disagrees for the following reasons:

17. It is noted that while Holbrook states that the fabric and cushion material of his/her invention are heat sensitive, it is respectfully submitted that Applicant is ignoring the overall disclosure of Holbrook's reference. For example, with respect to choosing a suitable adhesive so as to avoid the damage to the fabric of his/her invention, Holbrook states "The maximum softening temperature of the adhesive is restricted by the heat sensitivity of the fabric. The heat sensitivity of the fabric is affected by the melting temperature of the fibers used to create the fabric, the construction of the fabric (woven, knit etc.) and the temperature used during…manufacturing of the fabric. Most fabric exhibit significant degradation when exposed to temperatures above 340°F [171°C], even for short periods of time, so this is likely the maximum softening temperature of adhesives for use in this method." (column 4 lines 1-10). Thus, Holbrook desires that the adhesive used in his/her invention should have a maximum softening temperature of 340°F (171°C) or less. It is noted that the softening point of the Tomoaki's hotmelt adhesive is generally within what is desired by the primary reference of Holbrook (see for example adhesive of Sample 1 in Table 1 having a softening point of 135°C). Additionally, it is noted that Tomoaki discloses that the hotmelt adhesive of his/her invention can be used in the fields in which the hotmelt adhesive is ordinarily used, for

example, the field in which the adhesive is attached to unwoven fabric and/or papers (page 23, paragraph 0036). Thus, to the Examiner the hotmelt adhesive of Tomoaki is suitable for use with fabrics. Moreover, it is noted that the primary reference of Holbrook discloses disadvantages of using solvent based or chemical adhesives in attaching trim cover assemblies to cushion pads (column 1 lines 21-27). Further, Holbrook discloses that conventional attachment methods to attach trim cover assemblies to cushion pads use large quantities of adhesive and long bonding cycle times to assure that a sufficient quantities of adhesive has migrated into the fabric material to obtain a suitable bond (column 1 lines 57-61). According to Holbrook "Because both the fabric material and the cushion material are heat sensitive, long bonding cycle times result in degradation of the fabric material and the cushion material, such as nap crush and loss of foam loft (column 1 lines 60-65). It is noted that the hot-melt adhesive of the secondary reference of Tomoaki has advantages such as high flexibility, low possible coating temperature, low coating viscosity, high tack generation temperature, high blocking resistance, and short open time (page 9). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the hot-melt adhesive of Tomoaki in the invention of Holbrook, motivated by the desire to use a hot-melt adhesive that has high flexibility, low possible coating temperature, low coating viscosity, high tack generation temperature, high blocking resistance, and short open time. Moreover, as to Applicant's arguments that Holbrook even states that use of a hotmelt adhesive requires superheated vapor and is disadvantageous (referring to column 2 lines 22-29). This is not found persuasive

because column 2 lines 22-29 of Holbrook refers to a hotmelt adhesive taught in one specific patent (US 4,795,517) and states that this process [process of aforementioned US Patent] also exhibits all of the process limitations and potential for quality defects noted above. Thus, this disclosure does not mean that all of the hotmelt adhesives would require superheated vapor such that they are disadvantageous. Accordingly, Applicant's arguments are not found persuasive.

18. Applicant argues that Tomoaki's hotmelt adhesive requires high heat to soften and become adhesive whereas Holbrook's invention has an adhesive backing that does not require high heat to become tacky. Thus, Applicant asserts that the use of Tomoaki hotmelt would require higher energy costs to supply the necessary heat for applying the hotmelt. The Examiner respectfully disagrees. It is respectfully submitted that the arguments related to higher energy costs are merely speculative without any factual evidence on the record.

19. Applicant argues that the Examiner has provided no explanation for the motivation for modifying the Holbrook with the hotmelt adhesive of Tomoaki which has the advantages of high flexibility, low possible coating temperature, low coating viscosity, high tack generation temperature...and short open time. The Examiner respectfully disagrees with Applicant. It is respectfully submitted that the Examiner has clearly pointed out his rationale for why it would have been obvious to use the adhesive of Tomoaki in the invention of Holbrook. This rationale is provided at pages 5-6 of 01/22/08 Office Action (please see page 5, first full paragraph beginning at "It is noted

that the primary reference of Holbrook...Thus it would have been obvious…short open time."). Accordingly, Applicant's arguments are not found persuasive.

20. With respect to the art rejections based on Holbrook in view of Tomoaki and Bohm et al. (US 2003/0008137) to claims 3 and 11, Applicant has incorporated the same arguments that are made for the art rejections based on Holbrook in view of Tomoaki. Therefore, the Examiner's rebuttal set forth above with regards to the art rejection of Holbrook in view of Tomoaki is incorporated here by reference.

21. Additionally, Applicant argues that Holbrook further teaches away from an outer layer material as described in claims 3 and 11. According to Applicant "Holbrook teaches that a fabric that includes a backcoat layer is disadvantageous…Holbrook teaches that the adhesive should be used in place of any backcoat layer (col.5. lines 45-53)." (page 6 of Applicant's amendment received on 04/28/08). The Examiner respectfully disagrees. Please note that claim requires that the outer layer material be formed of a surface layer material. Holbrook discloses a method for manufacturing automotive seat assemblies using fabric (pre-applied outer layer material or surface layer or fibrous material) with pre-bonded adhesives (abstract). Since claim language only requires that the outer layer material is formed of a surface layer material, the fabric of Holbrook to which the adhesive is applied reads on the surface layer material. If Applicant is intending to claim that the surface layer is different from the outer layer or that the surface layer material is in addition to the outer layer, the claim language should reflect such intention. Additionally, with respect to Applicant's arguments regarding

Bohm, please note that the reference of Bohm is merely relied upon to show why it would have been obvious to use polyolefin foam structure as required by claims 3 and 11. Additionally, the primary reference of Holbrook is relied upon to show the application of the hotmelt to the back surface of the outer layer material (i.e. fabric of Holbrook) such that the hotmelt of Holbrook remains exposed until bonded to the cushion. Accordingly, the art rejections are sustained.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

23. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANISH DESAI whose telephone number is (571)272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

26. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. D./
Examiner, Art Unit 1794

/Hai Vo/
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